

**REMARKS**

Claims 1-20 are the claims pending in the application.

**I. Formal Matters**

The Examiner has crossed off JP10-195237 on the Form PTO-1449. However, the Examiner did not give a reason why the reference was crossed off. During a brief teleconference, the Examiner stated the most likely reason it was crossed off was because he did not have a copy of the reference.

Applicants' respectfully submit that JP10-195237 was enclosed with the Information Disclosure Statement filed September 22, 1999 (note the attached date stamped filing receipt indicating submission of all 19 references). However, enclosed herewith is another copy of JP10-195237. The Examiner is requested to acknowledge and consider JP10-195237.

**II. The Rejection Under 35 U.S.C. §112**

Claims 1 and 9 are rejected under 35 U.S.C. § 112, first paragraph, as allegedly being non-enabling for the subject matter of claims 1 and 9.

The Examiner alleges that claims 1 and 9 are directed to a rubber composition, "which is limited by only property limitations." The Examiner maintains "that [claims 1 and 9] are not enabled by the specification given that the patentability is solely dependent upon a property and the claims are not commensurate in scope with the enabling disclosure of the specification because

they basically cover any conceivable means for achieving the stated properties” and that “the specification does not provide support for every conceivable means for achieving the property and as such, the specification is not commensurate in scope with the claims.”

Applicants respectfully submit that the present specification provides a fully enabling disclosure for the invention, as claimed, and that the disclosure would enable one of ordinary skill in the art to make and use the invention, as claimed, without undue experimentation. Applicants request that the Examiner reconsider and withdraw the §112, first paragraph, rejection in view of the following remarks.

First of all, the case law cited by the Examiner, In re Hyatt, 218 USPQ 195, relates to “single means claims” and to means plus function types of claims. Applicants’ use a property characteristic of the material to describe the claimed rubber composition. This should be treated like any other property, such as density or Tg.

The relevant concern in determining the breadth of a claim relevant to the enablement of the disclosure is whether the scope of the enablement provided to one skilled in the art by the disclosure is commensurate with the scope of the protection sought by the claims. The inquiry is to determine how broad the claim is with respect to the disclosure and to determine if one skilled in the art is enabled to

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make and use the entire scope of the claimed invention without undue experimentation.

It is respectfully submitted that one of ordinary skill in the art would be able to practice Applicants' invention without undue experimentation. The PTO bears an initial burden of setting forth a reasonable explanation as to why it believes that the scope of protection provided by the claim is not adequately enabled by the description of the invention provided in the specification of the application; this includes, of course, providing sufficient reasons for doubting any assertions in the specification as to the scope of enablement. In re Wright, 27 USPQ2d 1510, 1513 (Fed. Cir. 1993). The Examiner has not met his burden of proof to provide a reasonable basis to question the enablement provided for the claimed invention. See MPEP §§2164.01 and 2164.04. The Examiner has not set forth how one of ordinary skill in the art would require "undue experimentation" to practice Applicants' claimed invention.

Applicants' specification is replete with examples of the compounds. Thus, there is ample guidance for one skilled in the relevant art to make and/or use the claimed invention without undue experimentation.

For the above reasons, it is respectfully submitted that Applicants' claims are fully enabled by Applicants' specification and that one of ordinary skill in the art would be able to practice the claimed invention without undue experimentation and it

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is requested that the rejection under 35 U.S.C. §112, first paragraph, be reconsidered and withdrawn.

**III. The Rejection Under 35 U.S.C. §102/103 based on EP '143 and JP '279**

Claims 1, 2, 3 and 19 are rejected under 35 U.S.C. § 102(b) or (e) as allegedly anticipated by or, in the alternative, under 35 U.S.C. § 103(a) as allegedly obvious over either European Application No 070143 (EP '143) or J09151279 (JP '279).

Applicants respectfully submit that the present invention is not anticipated by or obvious over EP '143 or JP '279 and request that the Examiner reconsider and withdraw this rejection in view of the following remarks.

EP '143 discloses a series of compounds that include sodium 1,6-hexamethylenedithiosulfate dihydrate (HTS) as a stabilizer for vulcanized rubber, and describes a rubber composition in which HTS is compounded.

EP '143 does include a description of polyvinyl alcohol, in which at least a crosslinking X' group is partially esterificated, as a compound having two or more ester groups, however, EP '143 does not teach or disclose that HTS and the polyvinyl alcohol are to be used in combination. Further, EP '143 does not teach or disclose that any beneficial effects may be obtained when a rubber composition in which HTS is compounded is utilized in a tire, let alone using such a rubber composition in side reinforcing layers or bead fillers.

JP '279 discloses a tire in which, by using in a tire tread a rubber composition in which HTS is compounded, grip performance is allegedly improved while maintaining low heat build-up. However, JP '279 does not teach or disclose a compound having two or more ester groups in one molecule, and JP '279 does not teach or disclose that any beneficial effects may be obtained when the combination of HTS and the compound having two or more ester groups in one molecule are used.

Further, a feature of JP '279 is the use, in a tire tread, of a rubber composition in which HTS is compounded. However, the JP '279 neither teaches nor suggests using a rubber composition in which HTS is compounded in side reinforcing layers or bead fillers.

For the above reasons, it is respectfully submitted that the subject matter of claims 1, 2, 3 and 19 is neither taught by nor made obvious from the disclosures of EP '143 or JP '279 and it is requested that the rejection under 35 U.S.C. §102/103 be reconsidered and withdrawn.

**IV. The Rejection Under 35 U.S.C. §102(e) or 103(a) Based on Blok**

Claims 9-17 and 20 are rejected under 35 U.S.C. § 102(e) as allegedly anticipated by or, in the alternative, under 35 U.S.C. § 103(a) as obvious over Blok et al.

Applicants respectfully submit that the present invention is not anticipated by or obvious over Blok et al and request that the Examiner reconsider and withdraw this rejection in view of the following remarks.

Blok et al alleges that reversion of a rubber composition can be suppressed by compounding a polyvalent acrylate compound. Blok et al also alleges that wet-traction ability is improved by using tire treads containing a rubber composition in which a polyvalent acrylate compound is compounded (see Blok et al, column 8).

However, the Blok et al does not teach or disclose that any beneficial effects may be obtained when a rubber composition in which a polyvalent acrylate compound is compounded is utilized in side reinforcing layers or bead fillers.

Furthermore, Blok et al does not teach or disclose that any beneficial effects may be obtained when due to the combined use of the polyvalent acrylate compound and HTS.

For the above reasons, it is respectfully submitted that the subject matter of claims 9-17 and 20 is neither taught by nor made obvious from the disclosures of Blok et al and it is requested that the rejection under 35 U.S.C. §102/103 be reconsidered and withdrawn.

**V. The Rejection Under 35 U.S.C. §103(a) Based on EP '143 and JP '279 in view of Blok et al**

Claims 4-8 and 20 are rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over EP '143 or JP '279 taken in view of Blok et al.

Applicants respectfully submit that the present invention is not anticipated by or obvious over EP '143 or JP '279 taken in view of Blok et al and request that the Examiner reconsider and withdraw this rejection in view of the following remarks.

As described above, neither EP '143, JP '279 nor Blok et al contain any teaching or disclosure of a rubber composition of side reinforcing layers or bead fillers having the claimed characteristics of the present invention.

Moreover, even if the disclosures of the cited references are combined, it is respectfully submitted that it would not have been obvious to one of ordinary skill in the art to select the inventive rubber compositions and/or tire components. Further, even if the disclosures of the cited references are combined, one of ordinary skill in the art would not have expected that the durability of side wall portions and that the driving distance in run-flat conditions may be unexpectedly increased, as obtained with Applicants' claimed invention.

For the above reasons, it is respectfully submitted that the subject matter of claims 4-8 and 20 is neither taught by nor made obvious from the disclosures of EP '143 or JP '279 in view of Blok et al and it is requested that the rejection under 35 U.S.C. §103(a) be reconsidered and withdrawn.

**VI. Conclusion**

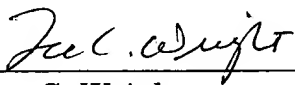
In view of the above, Applicants respectfully submit that their claimed invention is allowable and ask that the rejections under 35 U.S.C. §112 and the rejections under 35 U.S.C. §§102 and 103 be reconsidered and withdrawn. Applicants respectfully submit that this case is in condition for allowance and allowance is respectfully solicited.

If any points remain at issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the local exchange number listed below.

Applicants hereby petition for any extension of time which may be required to maintain the pendency of this case, and any required fee for such extension is to be charged to Deposit Account No. 19-4880.

Respectfully submitted,

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**APPENDIX**  
**VERSION WITH MARKINGS TO SHOW CHANGES MADE**

**IN THE CLAIMS:**

**The claims are amended as follows:**

1 (Amended). A rubber composition comprising sodium 1,6-hexamethylenedithiosulfate dihydrate, and having, in a curve exhibiting a change in dynamic storage modulus during elevation of temperature, an intersection of an extrapolation line A of a portion in which the dynamic storage modulus shows an approximately linear change before a rapid decrease at temperatures higher than 100°C and an extrapolation line B of a portion in which the dynamic storage modulus rapidly decreases, at a temperature of 170°C or higher.

2 (Amended). A rubber composition [according to claim 1,] comprising sodium 1,6-hexamethylenedithiosulfate dihydrate and a compound A having two or more ester groups in one molecule.

5 ( Amended). A rubber composition according to claim [4] 2, wherein the compound A is an acrylate or a methacrylate.

6 (Amended). A rubber composition according to claim [4] 2, wherein the compound A is a polyfunctional ester of a polyhydric alcohol and acrylic acid or methacrylic acid, and wherein the polyhydric alcohol [forming the compound A] is at least one compound selected from the group consisting of tetramethylolmethane, trimethylolpropane and polymers of these compounds.

9 (Amended). A rubber composition comprising a compound A having two or more ester groups in one molecule [having, in a curve exhibiting a change in dynamic storage modulus during elevation of temperature, a difference  $\Delta E'$  between the maximum value and the minimum value of the dynamic storage modulus at a temperature between 180 and 200°C or 2.5 Mpa or less].

10 (Amended). A rubber composition according to claim 9, [comprising a compound A having two or more ester groups in one molecule] having, in a curve exhibiting a change in dynamic storage modulus during elevation of temperature, a difference  $\Delta E'$  between the maximum value and the minimum value of the dynamic storage modulus at a temperature between 180 and 200°C of 2.5 MPa or less.

11 (Amended). A rubber composition according to claim [9] 10, wherein the compound A is an acrylate or a methacrylate.

12 (Amended). A rubber composition according to claim [10] 9, wherein the compound A is a polyfunctional ester of a polyhydric alcohol and acrylic acid or methacrylic acid.

13 (Amended). A rubber composition according to claim 12, wherein the polyhydric alcohol forming the compound A is at least one compound selected from the group consisting of tetramethylolmethane, trimethylolpropane and polymers of these compounds.

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15 (Amended). A rubber composition according to claim [10] 9, wherein the amount of the compound A is 0.5 to 20 parts by weight per 100 parts by weight of a rubber component.

16 (Amended). A pneumatic tire comprising bead fillers and/or side wall portions reinforced with a rubber reinforcing layer, wherein [a rubber composition for] the bead fillers and/or the rubber reinforcing layer comprises [the] a rubber composition [according to claim 1] comprising sodium 1,6-hexamethylenedithiosulfate dihydrate, and has, in a curve exhibiting a change in dynamic storage modulus during elevation of temperature, an intersection of an extrapolation line A of a portion in which the dynamic storage modulus shows an approximately linear change before a rapid decrease at temperatures higher than 100°C and an extrapolation line B of a portion in which the dynamic storage modulus rapidly decreases, at a temperature of 170°C or higher.

17 (amended). A pneumatic tire comprising bead fillers and/or side wall portions reinforced with a rubber reinforcing layer, wherein [a rubber composition for] the bead fillers and/or the rubber reinforcing layer comprises [the] a rubber composition [according to claim 9] comprising, in a curve exhibiting a change in dynamic storage modulus during elevation of temperature, a difference  $\Delta E'$  between the maximum value and the minimum value of the dynamic storage modulus at a temperature between 180 and 200 °C of 2.5 MPa or less.

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18 (Amended). A pneumatic tire according to claim [1] 19, which is a run-flat tire.

19 (Amended). A [rubber composition for side reinforcing layers and/or] pneumatic tire comprising bead fillers and/or side wall portions reinforced with a rubber reinforcing layer, wherein the rubber reinforcing layer and/or bead fillers comprise a rubber composition comprising sodium 1,6-hexamethylenedithiosulfate dihydrate.

20 (Amended). A [rubber composition according to claim 19, comprising a compound A having two or more ester groups in one molecule] pneumatic tire comprising bead fillers and/or side wall portions reinforced with a rubber reinforcing layer, wherein the rubber reinforcing layer and/or bead fillers comprise a rubber composition comprising a compound A having two or more ester groups in one molecule.